Preschool/TK/K

Measuring in STEAM Investigations

Children can measure during science investigations to enhance their observations, comparisons, and understanding of an object or a phenomena they investigate. Below are some examples of ways children can use measurement to support their inquiries.

Measuring in the context of physical science investigations

Light and Shadow: How does my shadow change?

Children might measure the lengths of their shadows at different times of the day and notice that the length of the shadow changes. Children and educators can consider reasons why this happens by exploring ways to make shadows change using flashlights in the classroom.

Force and Motion: How can I get the ball to roll farther?

Children might explore ways changes in force (for example, pushing the ball harder or softer) changes the distance a ball travels. Children can measure the distance a ball travels using standard or non-standard units of measurement.

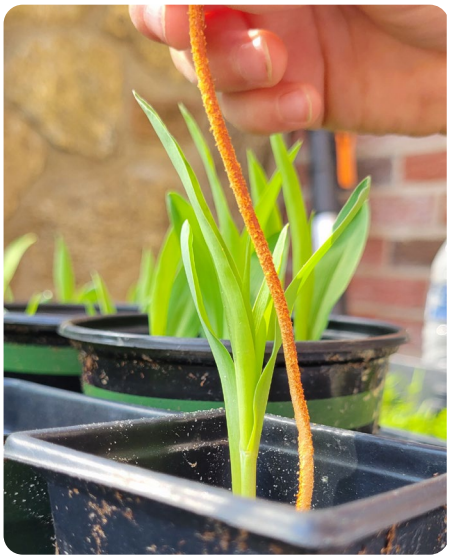
Changes in Objects and Materials: What causes ice to melt?

Children might notice how the temperature of a space affects the way ice behaves (for example, melting or not melting). Child might feel the difference in temperature or use a thermometer to measure the temperature of different areas (for example, in the freezer, in a cooler, in the sun, in the classroom). They can then put a piece of ice in the different areas and observe how long it takes ice to melt in each area.

Measuring in the context of life science investigations

Properties and Characteristics of Living Things: How are the plants similar and different?

Children might measure and compare the length and width of different leaves. Children can investigate how much the leaves grow over a certain period of time and record their measurement in a table.



Growth, Development, and Needs of Living Things: What do plants need to grow?

Children might measure and compare the height of plants grown in different conditions (for example, a plant watered daily compared to a plant that is not watered).

Measuring in the context of earth and space science investigations

Characteristics of Earth Materials: Are all rocks the same?

Children can collect different rocks from around their learning setting. Children might notice the different characteristics of rocks (for example, shape, size, texture, weight). Children can measure and compare the weight or size of different rocks.

Weather: What happens when it rains?

Children might notice puddles forming after a rainstorm. Children can use a rain gauge to measure how much it rains during a storm.

Measuring in the context of computer science

Robotics: Can we get our robot to travel from point A to point B?

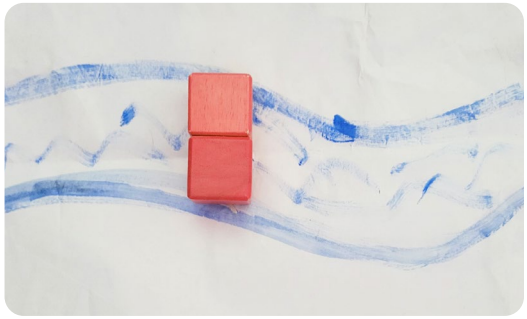
Children might measure the distance a robot needs to travel to reach a destination. Children might measure the distance in steps or using a measuring tape.

Measuring in the context of engineering investigations

Engineering Design Process: How can we get water to our plants?

Children might measure the distance from a water faucet to their garden beds to plan for ways to use tubes or hoses to water the plants in their garden. Children might use measurement as part of their design process prior to constructing.

Engineering Design Process: Can we build a bridge to move our toy cars across the pretend river?



Children might measure the distance across the river to know how wide their bridges need to be. Children might compare each other's designs by measuring the length and height of their bridges.